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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
HECK, MICHAEL C

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/610,704	KILGER ET AL.
	Examiner	Art Unit
	Michael C. Heck	3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 June 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This Final Office Action is responsive to applicant's amendment filed 24 June

2004. Applicant's amendment of 24 June 2004 did not amend nor cancel any claims.

Currently, claims 1-16 are pending.

Response to Arguments

2.   Applicant's arguments filed 24 June 2004 have been fully considered but they are

not persuasive. Applicant submits that the combination of the references is not proper

since the references do not provide a motivation to combine them. Applicant also

asserts that even if the references were properly combinable, Simoudis et al. (U.S.

Patent 5,692,107) alone or in combination with Anderson et al. (U.S. Patent 5,974,396)

does not disclose or render obvious Applicant's invention.

In response, the test for obviousness is not whether the features of a secondary

reference may be bodily incorporated into the structure of the primary reference, but

rather, the test is what the combined teachings of those references would have

suggested to one of ordinary skill in the art. *In re Keller, 642 F.2d 413, 425, 208 USPQ

871, 881 (CCPA 1981).* It would have been obvious to one of ordinary skill in the art at

the time of the applicant's invention to utilize the consumer transactional information of

Anderson et al. with the teachings of Simoudis et al. since Simoudis et al. teach the

invention may be applied in a variety of embodiments, each of which depends on the

types of data analysis modules and data sources made available to the system (col. 5,

lines 59-62).   Anderson et al. teach grouping product information in clusters and

analyzing consumer retail transactions in terms of those product clusters to determine relationships between the consumers and the products (col. 2, lines 56-67). Simoudis et al. teach the integration of top-down and bottom-up data mining to generate predictive models. After selecting the data from the data sources, the user selects a data analysis module. Several data analysis modules may be used to aid in the formulation and validation of query phases. For example, data generated by the deductive processing module may be presented by the visualization module to make certain relationships within the data more apparent. Other modules include clustering, case-based reasoning, inductive learning, and statistical analysis (col. 2, lines 6-47). Clearly, both Simoudis et al. and Anderson et al. disclose data analysis to determine relationships. Anderson et al. uses the techniques of Simoudis et al. to analyze consumer purchasing information that includes using consumer clustering relationships. The test is what the combined teachings of these references would have suggested to one of ordinary skill in the art, not necessarily that the two references had to produce an improvement.

Applicant argues that Simoudis et al. fail to disclose either a smart card system or direct consumer input for providing data to the plurality of data sources of the data mining system as motivation to not combine. In response, how data is input into the systems was not used as a combining factor, however, how Simoudis et al. and Anderson et al. are used to analyze data to determine relationships was. It must be noted that the applicant's invention as claimed does not make a data input method for providing data to the plurality of data sources a patentably distinct feature of the

invention. In fact, the applicant's invention as claimed does not address how the data was inputted into the data sources.

Applicant submits that the data mining system of Simoudis et al. would result in a data mining system that lacks a target data set used to extract a predictive model in favor [of] a data clustering system that fails to provide a predictive model. In response, Anderson et al. provides a retailer or retail chain with the ability to process transactional information involving large numbers of consumers and consumer products by gathering product information that uniquely identifies a specific product by type and manufacturer, grouping that product information into product clusters, and analyzing consumer retail transactions in terms of those products clusters to determine relationships between the consumer and the products. Product, consumer, and transactional data are maintained in a relational database. A retailer queries the relational database using selected criteria, accumulated data generated by the database in response to that query, and makes business and marketing decisions based on the accumulated data (Anderson et al.: col.2, line 56 to col. 3, line 7). Clearly the target data set and relational database are comparable as well as the predictive model and making business and marketing decisions based on the accumulated data.

The applicant asserts the combination of reference does not teach or suggest a data mining system having the process of integrating information. However, Simoudis et al. does involve the integration of top-down and bottom-up data mining to generate predictive models. The first step involves selecting the data from the data sources, where a target data set, which may be a single one of the data sources or a subset of

data selected from one or more of the data sources, is constructed (col. 2, lines 16-27).

Clearly, constructing a data set from multiple data sources is the process of integrating

information.

The applicant further asserts the data mining system of Simoudis et al. could not

be used to provide a system that identifies at least one qualitative variable common to

each database, resulting from the use of qualitative variables that are matched by

identifying the same or similar members in the databases and by forming a logical link

between the databases. In response, Simoudis et al. teach a series of query phrases,

which may be in the form of concept definitions, identified goal attributes, hypotheses, a

search term, search strategy, and the like are defined and validated against the target

data set (col. 2, lines 28-37). Clearly a search term suggests a qualitative variable that

is used in searching the target data set.

As indicated above, please wee the 35 U.S.C. § 103 (a) rejection below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Simoudis et al. (U.S. Patent 5,692,107) in view of Anderson et al. (U.S. Patent

5,974,396). Simoudis et al. teach a method for generating predictive models in a

computer system and Anderson et al. teach a method and system for gathering and

analyzing consumer purchasing information based on product and consumer clustering

relationships. Simoudis et al. and Anderson et al. do not expressly teach the specific

data recited in claim 6; however, these differences are only found in the non-functional

descriptive material and are not functionally involved in the steps recited nor do they

alter the recited structural elements. The recited method steps would be performed the

same regardless of the specific data. Further, the structural elements remain the same

regardless of the specific data. Thus, this descriptive material will not distinguish the

claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d*

1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32

USPQ2d 1031 (Fed. Cir. 1994); MPEP § 2106. Simoudis et al. disclose a process and

system for integrating information from disparate databases for the purpose of

predicting consumer behavior comprising:

- **[Claim 1]** identifying at least one qualitative variable which is common to each database (col. 5, lines 17-25, Simoudis et al. teach one module is used to define the query phrase while another module is used to present the retrieved data to the user. The examiner interprets the query phrase to be a qualitative variable.);

- transforming the at least one qualitative variable into one or more quantitative variables (col. 5, lines 17-25, Simoudis et al. teach one module is used to define the query phrase while another module is used to present the retrieved data to the user. The examiner interprets the retrieved data to be the quantitative variables.);

- converting, into converted information, the information in each of the databases in terms of the one or more quantitative variables (col. 3, lines 49-61, Simoudis et al. teach that one function of the server processor is to convert attributes and characteristics of a selected data source to those expected by the selected module. Thus, a type of impedance matching is performed by the server processor whenever a module is added to the

system to transform the data form the data source to conform with the expected format of the selected module.); and

- forming an integrated database by combining, from the disparate databases, the converted information (col. 2, lines 16-27, Simoudis et al. teach a target data set, which may be a single one of the data sources or a subset of data selected from one or more data sources, is constructed.).

Simoudis et al. fail to teach the information is the consumer transactional information and the integrated database is for predicting consumer behavior. Simoudis et al. does teach a data mining system and method to generate predictive models (col. 2, lines 6-15), however, Anderson et al. teach providing a retailer or a retail chain with the ability to process transactional information involving large numbers of consumers and consumer products by gathering product information that uniquely identifies a specific product by type and manufacturer, grouping that product information into product clusters, and analyzing consumer retail transactions in terms of those product clusters to determine relationships between the consumers and the products (col. 2, lines 56-66). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize consumer transactional information of Anderson et al. with the teachings of Simoudis et al. since Simoudis et al. teach the invention may be applied in a variety of embodiments, each of which depends on the types of data analysis modules and data sources made available to the system (col. 5, lines 59-62). Retail businesses are always looking for cost effective means to reach consumers and encourage them to shop at a particular store. Focused advertising and enticements on a previously identified groups helps encourages the identified groups to do business with the retail business. The focused approach reduces the amount of non-productive

advertising and improves the return on the advertising investment, therefore, producing

a cost effective means to reach the consumer.

- [**Claim 2**] selecting at least one discriminating subset of the at least one quantitative variable to create statistical drivers (Anderson et al.: col. 2, line 59 to col.3, line 7, Anderson et al. teach product, consumer, and transactional data are maintained in a relational database. A retailer queries the relational database using selected criteria, accumulates data generated by the database in response to that query, and makes business and marketing decisions based on that accumulated data.);

- and creating clusters by assigning each consumer in the integrated database to at least one of the subsets (Anderson et al.: col. 3, lines 30-40, Anderson et al. teach means for grouping data into clusters of information based on predefined criteria.).

- [**Claim 3**] converting at least one discriminating subset into at least one supercluster; and assigning each subset and the consumers identified therein to one of the at least one super clusters (Anderson et al.: col. 11, line 41 to col. 12, line 25, Anderson et al. teach product clusters allow a retail grocer to categorize 40,000 to 60,000 products into any smaller number of product clusters, e.g. 15 to over 100 product clusters. In the same way, a 100,000 to over a 1,000,000 consumers are summarized into anywhere from 6 to over 100 consumer clusters. The table at the to of col. 12 shows product clusters by product, cluster association, and general product clusters. The examiner submits the clusters can represent any view so desired by the user from detailed product specific clusters to general product clusters where general product clusters are superclusters that represents more that one specific product cluster.).

- [**Claim 4**] the at least one qualitative variable is a merchant and the one or more quantitative variable comprises one or more of the following: mean number of transactions per person for the merchant, mean amount per transaction for the merchant, mean household income of shoppers shopping at the merchant, and mean proportion of the shoppers for a particular area of the merchant (Anderson et al.: col. 11, line 41 to col. 12, line 25, Anderson et al. teach product clusters allow a retail grocer to categorize 40,000 to 60,000 products into any smaller number of product clusters, e.g. 15 to over 100 product clusters. In the same way, a 100,000 to over a 1,000,000 consumers are summarized into anywhere from 6 to over 100 consumer clusters. A consumer cluster report includes income: $0-25,000. The examiner interprets a retail grocer to be a merchant.).

- **[Claim 5]** prior to forming the integrated database, weighting the one or more disparate databases to adjust for the differences in size and in time encompassed (Simoudis et al.: col. 5, lines 17-39, Simoudis et al. teach that in addition to the patterns being proposed by the user, the target data set supports additional important patterns that are identified only by intelligently exploring its contents. Data exploration, or bottom-up mining, results in the automatic generation of several patterns, or rules. Preferably, the rules making up the rule set are in the form of "if...then" hypothesis. The examiner interprets the rules generated include weighting.)

- **[Claim 6]** identifying industries which have discriminate shoppers and grouping selected merchants into the at least one discriminating subset (Simoudis et al.: col. 1, lines 9-13, Simoudis et al. teach data mining systems used to retrieve data from one or more designated databases, and extracts patterns and relations from data stored in databases to generate predictive models. The examiner notes that industries with discriminate shoppers and selected merchants are non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements are indicated above.).

- **[Claim 7]** the consumer transactional information has instances of purchasing behavior by consumers for predicting the consumer behavior (Anderson et al.: col. 2, lines 56-66, Anderson et al. teach providing a retailer or a retail chain with the ability to process transactional information involving large numbers of consumers and consumer products by gathering product information that uniquely identifies a specific product by type and manufacturer, grouping that product information into product clusters, and analyzing consumer retail transactions in terms of those product clusters to determine relationships between the consumers and the products. Simoudis et al.: col. 1, lines 9-13, Simoudis et al. teach data mining systems used to retrieve data from one or more designated databases, and extracts patterns and relations from data stored in databases to generate predictive models.).

- **[Claim 8]** at least one of the disparate databases includes joint account information for at least two consumers, and further comprising the step of determining a consumer of the at least two consumers who generated at least a portion of the consumer transactional information (Anderson et al.: col. 15, Anderson et al. teach "CARD_MEMBER" and describes the card member as an individual card member within a consumer household. "HH_PURCH_HISTORY" is the household purchase history and is described as a trail of data and total amount of a consumer's household purchases. The examiner interprets that categorizing a card member and household purchase history means joint account information for at least two consumers

and the card member serves as the means to which consumer consummated which transactions.).

Claims 9-16 substantially recites the same limitations as that of claims 1-8 with the distinction of the recited method being a system. Hence the same rejection for claims 1-8 as applied above applies to claims 9-16.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Heck whose telephone number is (703) 305-8215. The examiner can normally be reached Monday thru Friday between the hours of 8:00am - 4:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq R. Hafiz can be reached on (703) 305-9643. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Or faxed to:

(703) 872-9306   [Official communications; including After Final
                                    communications labeled "**Box AF**"]

(703) 746-9419   [Informal/Draft communication, labeled "**PROPOSED**" or
                                    "**DRAFT**"]

Hand delivered responses should be brought to 220 South 20th Street, Crystal Plaza Two, Lobby, Room 1B03, Arlington, Virginia 22202.

mch
20 September 2004

TARIQ R. HAFIZ
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